

REMARKS

Claims 1-25 were originally filed in the present application. Claims 1-9 were subsequently canceled without prejudice or disclaimer. New claims 26-34 are currently added. Accordingly, claims 10-34 are currently pending in the present application.

Applicant notes with appreciation the Examiner's indication of allowance of claim 24.

Reconsideration of this application in light of the above amendments and the following remarks is requested.

Rejections under 35 U.S.C. §112

Claims 10-23 were rejected under 35 U.S.C. §112, second paragraph, because independent claims 10 and 20 were not clear to the Examiner. These claims are presently amended, and are believed to be in compliance with 35 U.S.C. §112. Consequently, Applicant respectfully requests the Examiner withdraw the rejection.

Rejections Under 35 U.S.C. §103

Claim 25

Claim 25 recites:

25. A MEMs device, comprising:
a landing yoke configured to deflect in response to biasing thereof;
a mirror element coupled to the landing yoke; and
a control bus configured to bias the landing yoke;
wherein at least one of the landing yoke, mirror element and control bus
includes a contact area coated with carbon nitride having a composition of C_xN_y ,
where x ranges between 0.1 and 0.9 and y ranges between about 0.1 and 0.9.

Claim 25 was rejected under 35 U.S.C. §103 as being unpatentable over U.S. Patent No. 5,485,304 to Kaeriyama ("Kaeriyama") in view of French Patent No. 2,775,005 to Dessaux, et al.

(“Dessaux”). Applicant traverses this rejection on the grounds that these references are defective in establishing a *prima facie* case of obviousness with respect to claim 25.

As the PTO recognizes in MPEP § 2142:

... The Examiner bears the initial burden of factually supporting any prima facie conclusion of obviousness. If the Examiner does not produce a prima facie case, the Applicant is under no obligation to submit evidence of nonobviousness...

It is submitted that, in the present case, the Examiner has not factually supported a *prima facie* case of obviousness for the following mutually exclusive reasons.

1. Even when combined, the references do not teach the claimed subject matter

As provided in 35 U.S.C. §103:

A patent may not be obtained ... if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains ... (Emphasis added)

Thus, when evaluating a claim for determining obviousness, all limitations of the claim must be evaluated. However, since neither Kaeriyama nor Dessaux teaches a MEMs device having at least one of a landing yoke, mirror element and control bus that includes a contact area coated with carbon nitride having a composition of C_xN_y , where x ranges between 0.1 and 0.9 and y ranges between about 0.1 and 0.9, as recited in claim 25, it is impossible to render obvious the subject matter of claim 25, as a whole, and the explicit terms of §103 cannot be met.

The Examiner concedes that Kaeriyama fails to teach the presently claimed carbon nitride coating, and therefore cites Dessaux for its disclosure of an elastic carbon nitride coating for lens and mirror application. (Examiner’s Office Action, page 3). However, Dessaux only teaches (in the translated portion provided by the Examiner) that the carbon nitride can have a composition of CN_x , where x is

greater than 0.3. (See first page of translated portion, "DETAILED DESCRIPTION"). Thus, Dessaux fails to teach the carbon nitride composition currently recited in claim 25 of the present application.

Thus, for this mutually exclusive reason, the Examiner's burden of factually supporting a *prima facie* case of obviousness has clearly not been met with respect to claim 25. Consequently, Applicant respectfully requests the Examiner withdraw the rejection of claim 25 under 35 U.S.C. §103.

2. Prior art that teaches away from the claims cannot be used to establish obviousness

In the present case, Dessaux teaches a carbon nitride composition of CN_x where x is greater than 0.3, as described above. Thus, in the context of the present application, Dessaux teaches a carbon nitride composition of C_xN_y where $x = 1.0$ and $y > 0.3$. Because Dessaux teaches $C_1N_{>0.3}$, Dessaux teaches away from a carbon nitride composition of C_xN_y where x ranges between 0.1 and 0.9. Thus, Dessaux clearly teaches away from claim 25, recited above. Since it is well recognized that teaching away from the claimed invention is a *per se* demonstration of lack of *prima facie* obviousness, it is clear that the Examiner cannot satisfy the initial burden of factually supporting any *prima facie* conclusion of obviousness with respect to claim 25 by any combination that includes Dessaux.

Thus, for this mutually exclusive reason, the Examiner's burden of factually supporting a *prima facie* case of obviousness has clearly not been met with respect to claim 25. Consequently, Applicant respectfully requests the Examiner withdraw the rejection of claim 25 under 35 U.S.C. §103.

3. The combination of references is improper

Assuming, *arguendo*, that none of the above arguments for non-obviousness apply (which is clearly not the case based on the above), there is still another mutually exclusive and compelling reason why Kaeriyama and Dessaux cannot be applied to reject claim 25 under 35 U.S.C. §103. The MPEP provides in §2142 that:

...the Examiner must step backward in time and into the shoes worn by the hypothetical 'person of ordinary skill in the art' when the invention was unknown and just before it was made.....The Examiner must put aside knowledge of the Applicant's disclosure, refrain from using hindsight, and consider the subject matter claimed 'as a whole'.

Here, neither Kaeriyama nor Dessaux teaches, or even suggests, the desirability of the combination since neither teaches a MEMs device having at least one of a landing yoke, mirror element and control bus that includes a contact area coated with carbon nitride having a composition of C_xN_y , where x ranges between 0.1 and 0.9 and y ranges between about 0.1 and 0.9, as specified above and as recited in claim 25.

Thus, it is clear that neither reference provides any incentive or motivation supporting the desirability of the combination. Therefore, there is simply no basis in the art for combining the references to support a 35 U.S.C. §103 rejection of claim 25.

In this context, the MPEP further provides at §2143.01:

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination.

In the above context, the courts have repeatedly held that, absent some teaching, suggestion or incentive supporting combination, obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention. In the present case, it is clear that the Examiner's combination arises solely from hindsight based on the invention and without any showing, suggestion, incentive or motivation in either reference for the combination as applied to claim 25.

Thus, for this mutually exclusive reason, the Examiner's burden of factually supporting a *prima facie* case of obviousness has clearly not been met with respect to claim 25. Consequently, Applicant respectfully requests the Examiner withdraw the rejection of claim 25 under 35 U.S.C. §103.

New claim 32

New claim 32 recites:

32. An integrated circuit apparatus, comprising:
a microelectronic device located at least partially in a substrate;
a dielectric first layer having a first dielectric constant and a first hardness;
and
a second layer comprising carbon nitride and having a second dielectric constant and a second hardness, wherein:
one of the first and second layers interposes the substrate and the other of the first and second layers;
an aggregate dielectric constant of the first and second layers is less than the first dielectric constant; and
an aggregate hardness of the first and second layers is greater than the first hardness.

Claim 32 and its dependent claims also should not be rejected under 35 U.S.C. §103 as being unpatentable over Kaeriyama in view of Dessaux. That is, neither Kaeriyama nor Dessaux teaches an integrated circuit apparatus comprising: (1) a microelectronic device located at least partially in a substrate; (2) a dielectric first layer having a first dielectric constant and a first hardness; and (3) a second layer comprising carbon nitride and having a second dielectric constant and a second hardness, wherein: (i) one of the first and second layers interposes the substrate and the other of the first and second layers; (ii) an aggregate dielectric constant of the first and second layers is less than the first dielectric constant; and (iii) an aggregate hardness of the first and second layers is greater than the first hardness. Thus, it is impossible to render obvious the subject matter of claim 32, as a whole, and the explicit terms of §103 cannot be met.

Conclusion

It is clear from all of the foregoing that independent claims 10, 20, 24, 25 and 32 are in condition for allowance. Dependent claims 11-19, 21-23, 26-31, 33 and 34 depend from and further limit their corresponding independent claim and, therefore, are allowable as well.

It is believed that all matters set forth in the Office Action have been addressed, and that claims 10-34 are in condition for allowance. Favorable consideration and an early indication of the allowability of the claims are respectfully requested. Should the Examiner deem that an interview with Applicant's undersigned attorney would expedite consideration, the Examiner is invited to call the undersigned attorney at the telephone number indicated below.

Respectfully submitted,



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